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ABSTRACT

This program assessment instrument was developed to identify criteria for excellence in science in Alaskan schools. It was designed to be used by administrators, professional staff and community representatives to assess science programs. The instrument contains categories of items which are to be rated on a five-point scale ranging from "not started" to "achieved." The categories deal with: (1) philosophy; (2) staffing and professional development; (3) administration; (4) planning; (5) program; (6) community involvement; and (7) evaluation. It is suggested that the instrument could also be used to establish program goals, validate exemplary programs, do a self-appraisal, plan inservice and staff development activities, and disseminate information. (TW)

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PROMISING PRACTICES

CRITERIA FOR EXCELLENCE

SCIENCE EDUCATION

SE 047 837

CRITERIA FOR EXCELLENCE

SCIENCE

This program assessment instrument has been developed to be used by administrators, professional staff and community representatives to assess Science programs. Other possible uses for information generated from using these criteria include:

Establishing program goals

Validation of exemplary programs or promising practices

Self-appraisal (school, district, community level)

Planning inservice, staff development and training activities

Disseminating information

Adopted by the State Board of Education
September 1986
Office of Curriculum Services
Alaska Department of Education
P.O. Box F
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CRITERIA FOR EXCELLENCE

SCIENCE

For each statement circle the rating number that most accurately describes the current status of your school's program.

PHILOSOPHY

1.	There is a written philosophy for the science education program.	1	2	3	4	5
2.	The science philosophy reflects the needs, wishes, cultures, and values of the local communities.	1	2	3	4	5
3.	The science program philosophy is the basis for planning, implementation, and evaluation of the school's science program.	1	2	3	4	5
4.	The science philosophy encourages the infusion of new ideas and technologies that prepare students for the future.	1	2	3	4	5
5.	The program is supported by the school district board and is consistent with district's educational philosophy and science education goals.	1	2	3	4	5

STAFFING AND PROFESSIONAL DEVELOPMENT

6.	Qualified personnel are teaching in the science program: . Elementary teachers have at least one science course and one science methods course. . Secondary science teachers have a minimum of a college minor or equivalent course credits in science and one science methods course. . At least one staff person in the program has completed courses in several areas of science (i.e. Biology, Chemistry, Physics, Geology, Environmental Science etc.). . Teachers show an enthusiasm and interest in science and assume the professional responsibility of keeping current. . Recruitment procedures encourage hiring of under-represented groups.	1	2	3	4	5

Rating Scale:
(1) not started (2) started/little progress (3) some progress (4) almost achieved (5) achieved

7.	There are ongoing inservices and science staff meetings to implement the science program based on assessed needs according to program objectives.	1	2	3	4	5
8.	There is training in appropriate use of educational materials.	1	2	3	4	5
9.	A process is in place to update staff on current research, teaching techniques, and technological trends applicable to science education.	1	2	3	4	5

Administration

10.	School administration and counseling staff are knowledgeable about the scope and sequence of the science program.	1	2	3	4	5
11.	The school administration provides full support to the science program.	1	2	3	4	5
12.	The program is budgeted at a level which allows for a successful program to exist and flourish.	1	2	3	4	5
13.	Qualified individual(s) are given the authority, responsibility, and time for continued development of the science program.	1	2	3	4	5

Planning

14.	A clear management plan exists that defines roles and responsibilities of all parties involved in the program.	1	2	3	4	5
15.	Program planning incorporates needs assessments of: students school community	1	2	3	4	5
16.	Program planning and development are based on realistic goals and objectives.	1	2	3	4	5

Rating Scale:
(1) not started (2) started/little progress (3) some progress (4) almost achieved (5) achieved

17. Program planning and development and setting goals and objectives involve: teachers administrators students community	1	2	3	4	5

Program

18. The science curriculum is coordinated with the total school instructional program.	1	2	3	4	5
19. The science program is integrated into all grade levels, while meeting the needs of individual students and matching the developmental abilities, learning styles, and rates of the students.	1	2	3	4	5
20. The science program encourages integration with other subject matter and uses skills learned in those subject areas.	1	2	3	4	5
21. The program is based on a written scope and sequence of knowledge and skills, K-12. The scope and sequence is used in instruction and evaluation.	1	2	3	4	5
22. Student progress is assessed in relation to program goals and objectives.	1	2	3	4	5
23. Financial, material, and human resources for science education are coordinated to meet goals.	1	2	3	4	5
24. The program has extended learning opportunities for all students regardless of ability. (for example, Science Fair and outdoor education projects) allowing students to explore areas of individual interest.	1	2	3	4	5
25. Activities are used to involve the under represented groups in the science program.	1	2	3	4	5

Rating Scale:
(1) not started (2) started/little progress (3) some progress (4) almost achieved (5) achieved

26.	The science program includes or incorporates: . Opportunities for all students to explore careers in science. . Current technological, social and economic changes. . Local, cultural and language diversity in the science curriculum. . Topics relevant not only to the college-bound student but to students' lives in the community setting. . Topics that include and exploit the opportunities provided by Alaska's environment. . Opportunities to explore the world of science by experiencing hands-on experiments related to the scientific method. . A variety of and the most appropriate instructional method for the lesson such as research, field trips, experimentation and computer technology. . Creative thinking, problem solving skills and the knowledge necessary to prepare students to make informed decisions. . Opportunity to communicate both written and orally. . Opportunities for success.	1	2	3	4	5
27.	The program teaches both the process and content of science by including such skills as observing, classifying, analysis and scientific inquiry, as well as content areas such as plants, geology, and electricity.	1	2	3	4	5
28.	Adequate instructional materials are available for the execution of the program. The materials are: . Appropriate for the students' abilities and concepts to be learned. . Current and motivational . Continually reviewed, inspected and updated, and have been reviewed for bias.	1	2	3	4	5
29.	Reference materials are available within the school or the school district.	1	2	3	4	5
30.	Adequate and appropriate equipment and supplies are available.	1	2	3	4	5
31.	Current audio-visual materials (films, filmstrips, audio-cassettes, records, laser disks, posters, charts, computer programs, etc.) are available.	1	2	3	4	5

Rating Scale:
(1) not started (2) started/little progress (3) some progress (4) almost achieved (5) achieved

32. Adequate and appropriate space is available for performing science activities and for storage of equipment and supplies.	1	2	3	4	5

COMMUNITY INVOLVEMENT

33. The talents and knowledge of local people, (including under-represented groups which compliment the program's goals) are used as resources in the classroom.	1	2	3	4	5
34. The resources available in the local community and environment are identified and used to meet program objectives.	1	2	3	4	5
35. Parents and the community are informed of program goals and involved in program development and evaluation.	1	2	3	4	5
36. Community resource people (for example, agency biologists, industry geologists, village elders, medical personnel) are informed of the program goals and involved in the program development.	1	2	3	4	5

EVALUATION

37. An ongoing process and procedure exist to assess student achievement against objectives of the curriculum.	1	2	3	4	5
38. Program evaluations are based on the well defined goals and objectives.	1	2	3	4	5
39. There is an ongoing evaluation process that includes students, teachers, community members, and parents.	1	2	3	4	5
40. Results of the evaluations are communicated to students, teachers, parents and the community.	1	2	3	4	5
41. Evaluation results, including assessment of student achievement, are used for program planning and improvement.	1	2	3	4	5

Rating Scale:
(1) not started (2) started/little progress (3) some progress (4) almost achieved (5) achieved

Criteria for Excellence
SCIENCE

Profile Sheet

Rating Scale: Mark your rating for each numbered item on a scale of 1 to 5 or any point in between.

	Not Started	Started	Some Progress	Almost Achieved	Achieved
PHILOSOPHY	1	2	3	4	5
1 Written philosophy					
2 Reflects community values					
3 Basis for science program					
4 Encourages technology					
5 School board support and consistency					
STAFFING AND PROFESSIONAL DEVELOPMENT					
6 Qualified personnel					
7 Ongoing inservices based on needs					
8 Training for materials use					
9 Staff updated on research					
ADMINISTRATION					
10 Knowledge of scope and sequence					
11 Administrative support					
12 Adequate budget level					
13 Responsibility for program development					
PLANNING					
14 Management plan					
15 Needs assessment					
16 Realistic goals and objectives					
17 Group involvement					
PROGRAM					
18 Coordination with total program					
19 All grade level integration					
20 Integrated subject matter and skills					
21 Written scope and sequence					
22 Assessment of student progress					
23 Resources meet goals					
24 Extended learning opportunities					
25 Under-represented groups					
26 Science program elements					
27 Process and content					
28 Adequate materials					
29 Reference materials					
30 Equipment and supplies					
31 Audio visual materials					
32 Adequate space and storage					

(Over)

COMMUNITY INVOLVEMENT	1	2	3	4	5
33 Local human resources used					
34 Community resources identified					
35 Parent and community participation					
36 Community resources informed					

EVALUATION					
37 Process for student assessment					
38 Program evaluation based on goals					
39 Ongoing evaluation process					
40 Communication of results					
41 Results used for planning					

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Science Criteria for Excellence
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